

50016

MEMORANDUM

TO: The Record

SUBJECT: Options to Revise the Synthesis Gas Specification

On June 19, 1998, we finalized certain portions of the Phase I HWC Combustor MACT ahead of the main portions of the proposal in the so-called "fast-track" rule. One of the components of the fast-track rule was the "Comparable Fuel Rule (CFR)". The CFR included an exclusion from the definition of solid waste for hazardous waste derived synthesis gas fuel containing low contaminant levels of toxic constituents (see 63 FR 33791). Since finalizing the synthesis gas exclusion, we have determined that the specification levels established in the rule do not adequately represent the concentration of RCRA Appendix VIII metals that exist in synthesis gas derived from hazardous waste. In fact, we found that the specification for metals in the exclusion is significantly higher than we would expect in comparable synthesis gas fuels manufactured from virgin materials. (See Attachment 1) Therefore, in this Appendix to the gasification proposal, we are explaining a number of options that could be used to revise the specification for allowable concentrations of RCRA metals in hazardous waste derived synthesis gas fuel that may be excluded from the definition of solid waste.

One option we are considering involves establishing the specifications for RCRA metal concentrations in the synthesis gas based on the concentrations seen in synthesis gas manufactured from virgin materials such as coal or petroleum coke. Accordingly, we are requesting that the gasification industry provide data on the concentration of RCRA metals that are contained in synthesis gas manufactured from virgin raw materials in order to establish a specification that better represents the metal levels expected in hazardous waste derived synthesis gas fuel that is comparable to synthesis gas manufactured from virgin materials.

A second option we are considering involves establishing the specification based on the level of RCRA metals contained in coal or petroleum coke, which are the primary feedstocks used by gasification devices. Under this option, we examine the level of metals known to exist in coal or petroleum coke and calculate what the concentration of those metals would be in a synthesis gas if the metals partitioned to the synthesis gas according to their potential for volatilization and capture in the gasification cleaning systems. The data used in these calculations would be extracted from the HWC database used to establish emissions standards for the Phase I HWC MACT rule. This database is available on-line at <http://www.epa.gov/hwcmact>.

A third option we are considering is to establish the specification levels based on the concentration of RCRA metals seen in comparable gaseous fuels such as natural gas. However, we are concerned that basing the levels on natural gas may not be achievable by the gasification devices processing virgin raw materials.

A fourth option involves establishing a generic specification based on what we believe represents the concentration of metals we can expect in clean gaseous fuels, such as 1 part per billion by volume. Here again, however, we are concerned that such a specification may not be achievable or representative of the metal concentrations in synthesis that is comparable to synthesis gas manufactured from virgin materials.

A fifth option involves using the specifications for RCRA metals found in the comparable fuel exclusion at 40 CFR 261.38(a) to calculate metal limits for a synthesis gas that has equal amounts of metals in gaseous form. This calculation involves using the comparable fuel specifications to predict the concentration of RCRA metals in a synthesis gas.

We invite comment on all the options we have described above to revise the current metal specifications for hazardous waste derived synthesis gas excluded under 40 CFR 261.38(b). We note that this proposal only re-opens for comment, the issue of appropriate metal specification limits, and does not reopen issues related to RCRA jurisdiction of waste derived gaseous fuels.